



CY000FAM026 - PARALIMNI LAKE

Description

The Paralimni Lake is located within the administrative boundaries of Famagusta District. The majority of the lake lies within the boundaries of the Municipality of Paralimni Municipality (97.32 %), while smaller percentages to Sotira Community (2.56 %) and the Municipality of Deryneia (0.12 %). It has an area of about 2,730 decares and an average water depth of 0,9 m. When full with water, it has a capacity of 2 million cubic meters. The Lake is usually dry during the summer months due to its large area and the limited water depth combined with high evaporation (1).

It's a natural, shallow lake enclosed in a lowland area. Due to the appearance of two ephemeral rivers and heavy rainfall it seasonally floods and turns into lake and marsh. The Paralimni Lake owes its existence to the partial blockage of drainage from its natural outlet, by old dunes. The lake is mainly characterized by brackish waters. Salts, other than those due to evaporation , seem to arise from the Mammonia rock Formation which is found in very shallow depths (1,2).

Paralimni Lake receives water mainly by Vathis River , which drains most of the basin of (12km²) and the Vouni River from the Sotira area. Limited inputs come from the catchment area around the lake and the direct input of the rain on the surface of the Lake (3) .According to old records, the degradation of the lake began after the creation of drainage works (2). In 1893 a tunnel / burrow was constructed for emptying purposes of the lake and in 1963 an open water transfer channel was built for artificial recharge of the aquifer in the coastal area of Paralimni. The transfer canal connected the Lake - through a tunnel - with 32 small recharge dams at the Panagia area. Today, almost half of the recharge dams are in an operative state (1,2). The larger recharge dams were recorded throughout this Project. At the point where the burrow is joined to the open channel there is a diverting gate that can divert water to the sea, as it was done before the construction of the channel. The rapid tourism development in the region over the last 30 years has led to a dramatic change of land use and to reduction of pumping and interest in the operation of the enrichment system, from the Paralimni Lake. This led to being underactive and with reduced maintenance.

Within the lake there is a series of small ponds in the west and southwest that were dug in the past, possibly to serve the irrigation or livestock needs (2). The ponds communicate with the aquifer and retain water, even when the bulk of the Lake is dried up in the summer. For this reason it is the main habitat of the endemic Cyprus grass snake *Natrix natrix cypriaca* and other species directly dependent on water (eg. amphibians) (2).

The Lake is one of the few natural wetlands located in areas controlled by the Republic of Cyprus and the second larger, after the Larnaca Salt lakes. It is an area with great flora importance, since its vegetation-characteristic of salt marshes - lakes and riparian vegetation- is composed by a number of Annex I habitat types of the Directive 92/43 / EEC , which have limited distribution in Cyprus . These habitats are the 1310- halophilous - nitrophilous plant communities of primary vegetation with *Salicornia* which covers most of the Lake, 1410- Mediterranean salt meadows , in the most wet positions and 92D0-- Southern riparian forests - dominated by *Tamarix tetragyna* located around the ponds , canals and rivers supply. Locally, the riparian vegetation is mixed with reeds, which are an important habitat of the bird fauna of the area. In addition important plant species were recorded like the rare *Crypsis aculeata* and *Crypsis factorovskyi* included in the Red Book of the Flora of Cyprus as vulnerable and the endemic *Onopordum cyprium* (3,4).

The area also has great ornithological interest . It is one of the five most important sites on the island for the reproduction of the Spur-winged Lapwing *Vanellus spinosus* and it is particularly important for reproduction of at least two major types , the Black-winged Stilt *Himantopus himantopus* and the greater short-toed lark, *Calandrella brachydactyla* (2). Within the are a total number of 103 bird species were recorded. 35 of those are included in the Annex I of the Birds Directive 2009/147 / EC. 13 of them reproduce in the Lake and 14 to overwinter. The lake is also an important milestone for the species that migrate north in the spring , since it is the first wetland encountered just when they reach Cyprus and one of the last resting places before setting off for South in autumn (3) .

The lake is also important for the endemic Cyprus grass snake *Natrix natrix cypriaca* because it is one of the few areas of

Cyprus with a viable population . Also the horseshoe bat (*Rhinolophus hipposideros*) was recorded. Both species are species of Community Interest (Annex II of Directive 92/43 / EEC). In the region three more bat species were recorded , 6 lizard species , 4 species of snakes and one amphibian species all listed in Annex IV of Directive 92/43 / EEC, and other endemic taxa (4 species of mammals and 7 species of reptiles) (3.4).

After 1974 the area around the lake was rapidly and intensively urbanized.. Most of the Paralimni Lake consists of private land. The state land (called merras) is limited to only some small plots (1). The urban web today has encircled the lake area. A part of the Paralimni Lake in the north, has already been built and a planning permission has also been issued for land separation of the rest north part of the Lake. The inclusion of the area in the Natura 2000 network both as a Special Protection Area (SPA) for birds and as a Site of Community Importance (SCI) excluded this natural area from their boundaries (2) .

Anthropogenic pressure in the area is very high . The main pressures are the extensive excavations and arbitrary garbage discharges, urban use and movement within the degraded wetland , the presence of a shooting range directly beside the Lake , the illegal hunting , wheeled journeys, many pets that exert predation pressure on birds and reptiles in the wetland , possible use of poisons to treat mosquito or leakage insecticides and pesticides used on adjacent crops , pumping water from the ponds leading to premature desiccation and possible suction and killing of the snake and other species , unsustainable water management, introduction of alien species (carp , mosquitofish). Multiple disturbing anthropogenic activities add up and cause great deterioration (2,3) . The hydrological regime of the lake is very degraded compared to the natural reference conditions (ie. Before the 1930s) . During the summer months minimal surface water remains in the lake and it is limited to a few ponds and ditches in the spring and the beginning of the summer. The area occupied by the water in the ponds is covering only a few hundred square meters. It is necessary to ensure an area which will be covering at least 10 hectares to preserve wetland habitats and breeding birds during the spring and summer (2).

Paralimni Lake falls in the homonymous area of nature protection Natura 2000, both as a Site of Community Importance and as a Special Protection Area for birds with the Code CY 3000008 (4). As a Site of Community Importance it was designated on the 30.3.2012 and as a Special Protection Area on the 13.3.2009. In March 15, 2012 the European Court condemned the Cyprus Republic for the Paralimni Lake because (a) had not until then declared the area as a Site of Community Importance (b)put up with the activities that seriously endangered the ecological characteristics of Paralimni Lake and did not take the necessary protective measures to safeguard the population of the species *Natrix natrix cypriaca* (Cyprus grass snake) which constitutes the ecological interest of the lake and Xyliatos dam, and (c) failed to take the necessary measures to establish and implement a strict protection regime for this species. The lake has also been recognized by BirdLife Cyprus as an Important Bird Area (5). Part of the lake is a temporarily forbidden hunting area (6).

Recently some protection and conservation actions under the ICOSTACY Program with full title " Improving the conservation status of fauna in Cyprus.; Since the restoration of microhabitats of species to the coherence of the ecological landscape" took place within the lake. New ponds were created in order to spread the water snake within the SAC. Specifically, two new ponds were created and channel was excavated, to join the existing channels and ponds with new the new ones , creating passageways between them to allow the free passage and being of the grass snake in the SAC during the dry season. Further information about the ICOSTACY and its activities can be found on the project website :

http://www.moa.gov.cy/moa/icostacy/icostacy.nsf/index_gr/index_gr?OpenDocument

Reporting Period of Raw Data: 06/ 2015

Field Surveyors: Papatheodoulou A., Sergides L., Zavrou D.

(1) I.A.CO Ltd 1 Environmental & Water Consultants (2013). Study of hydrologic and hydraulic operating conditions of the wetland system of the Natura 2000 network area « Paralimni Lake " and assessing the hydroperiod . Department of Environment Ministry of Agriculture , Natural Resources and Environment

(2) Water Development Department (2011) . Implementation of Articles 11, 13 and 15 of the Water Framework Directive (2000/60 / EC) in Cyprus . Annex II Detailed program of measures.

(3) Elena Hatziharalambous (publication coordinator), 2011. Management Plan of the area CY3000008 « Paralimni Lake ." Greek Biotope Wetland Centre . Environment Department. Thermi. 151 pp + Annex + 13 Maps

(4) BioCYPRUS (2009). Electronic database. Department of Environment. Ministry of Agriculture Natural Resources and Environment.

(5) Hellicar M., Anastasi V., Beton D., Snape R. (2014). Important Bird Areas of Cyprus. Birdlife Cyprus, Nicosia, Cyprus.

(6) Data from the Game and Wildlife Fund (Access 06/2015)

Bibliographic Reference to Cyprus Wetlands:

Papatheodoulou A., Sergides L., Michael K., Emirzade T., Victora M., Anastasi A. 2015 - (continuous updating): Cyprus Wetlands - Cyprus Wetland Inventory. Published in <http://www.cypriuswetlands.org>, access [date].

General information

Basic information

Wetland location:	Inland
Wetland type:	Natural
Natural / Artificial:	Lake
Area (Ha):	0.00000
Hydrological interaction with other wetland:	No -
Water salinity:	Brackish
Fresh water entry:	Catchment area (precipitation)
Surface water runoff:	There is no obvious water outflow

Geographic information

Region:	PARALIMNI
Regional section:	AMMOHOSTOS
Coordinates (WGS84):	0.000000 E - 0.000000 N

Wetland condition

Wetland condition:	3 - Original habitats/landform partially modified (10-50% untouched)
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Ramsar wetland types

Ramsar type	Coverage (%)
R- Seasonal/intermittent saline/brackish/alkaline lakes and flats	> 95

Property status

Private

Protection statuses & other designations

Protection status

Protection status category	Protection status subcategory	Site name	Code	Coverage (%)	Legislation
Planning Regime	Other		Δα1	77	
Planning Regime	Other		Z1	2	

Ecosystem Services, Activities & Impacts

Ecosystem Services

Type of Ecosystem service	Ecosystem service	Scale of Benefit	Importance
Cultural services	Cultural heritage		
Cultural services	Recreation and tourism		
Regulatory services	Flood hazard regulation		
Supporting services	Nutrient cycling		
Supporting services	Provision of habitat		

Activities on wetland

Activities	Intensity
010 = Habitat conservation	
230 = Hunting	

243 = trapping poisoning poaching

420 = Discharges

423 = disposal of inert materials

530 = Improved access to site

620 = Outdoor sports and leisure activities

701 = water pollution

703 = soil pollution

800 = Landfill land reclamation and drying out general

830 = Canalisation

853 = management of water levels

954 = invasion by a species

Activities on drainage basin

Activities	Intensity
010 = Habitat conservation	
100 = Cultivation	Medium
230 = Hunting	
243 = trapping poisoning poaching	
400 = Urbanised areas human habitation	High
609 = other sport/tourism complexes	
853 = management of water levels	

Habitats & Vegetation

Habitat types

Habitat types	Coverage (%)
1310 Salicornia and other annuals colonizing mud and sand	76 - 95
1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	< 5
92D0 Southern riparian galleries and thickets (<i>Nerio-Tamaricetea</i> and <i>Securinegion tinctoriae</i>)	< 5
CY09 Thistle fields	

Species

Flora

Species	Dominance	Reference
Acacia sp.		Biocyprus (2009). Electronic Database
Alopecurus utriculatus		Tsintides T, Christodoulou S. C, Delipetrou P., Georghiou K. (2007) The red data book of the flora of Cyprus. Cyprus Forestry Association. Lefkosia.
Arthrocnemum macrostachyum		Biocyprus (2009). Electronic Database
Arundo donax		Biocyprus (2009). Electronic Database
Cressa cretica		Biocyprus (2009). Electronic Database
Crithopsis delileana		Tsintides T, Christodoulou S. C, Delipetrou P., Georghiou K. (2007) The red data book of the flora of Cyprus. Cyprus Forestry Association. Lefkosia.
Crypsis aculeata	Present	Biocyprus (2009). Electronic Database

<i>Crypsis factorovskyi</i>	Present	Biocyprus (2009). Electronic Database
<i>Cynodon dactylon</i>		Biocyprus (2009). Electronic Database
<i>Echinochloa crusgalli</i>		Biocyprus (2009). Electronic Database
<i>Eucalyptus</i> sp.		Biocyprus (2009). Electronic Database
<i>Halopeplis amplexicaulis</i>		Biocyprus (2009). Electronic Database
<i>Hordeum murinum</i>		Biocyprus (2009). Electronic Database
<i>Juncus subulatus</i>		Biocyprus (2009). Electronic Database
<i>Mesembryanthemum nodiflorum</i>		Biocyprus (2009). Electronic Database
<i>Onopordum cyprium</i>	Present	Biocyprus (2009). Electronic Database
<i>Parapholis incurva</i>		Biocyprus (2009). Electronic Database
<i>Phragmites australis</i>		Biocyprus (2009). Electronic Database
<i>Salicornia europea</i>		Biocyprus (2009). Electronic Database
<i>Spergularia marina</i>		Biocyprus (2009). Electronic Database
<i>Suaeda vera</i>		Biocyprus (2009). Electronic Database
<i>Symphyotrichum squamatum</i> ≡ <i>Aster squamatus</i>		Biocyprus (2009). Electronic Database
<i>Tamarix</i> sp.		
<i>Tamarix tetragyna</i>		Biocyprus (2009). Electronic Database
<i>Xanthium strumarium</i>		Biocyprus (2009). Electronic Database

Fauna

Mammals		Presence in wetland	References
Crocidura suaveolens cypria = Crocidura russula cy			Biocyprus (2009). Electronic Database
Hemiechinus auritus dorotheae (Spitzenberger, 197			Biocyprus (2009). Electronic Database
Lepus capensis cyprius			Biocyprus (2009). Electronic Database
Pipistrellus kuhlii (Kuhl, 1817)			Biocyprus (2009). Electronic Database
Rhinolophus hipposideros (Bechstein, 1800)			Biocyprus (2009). Electronic Database
Tadarida teniotis (Rafinesque, 1814)			Biocyprus (2009). Electronic Database
Vulpes vulpes (Linnaeus, 1758)			Biocyprus (2009). Electronic Database
Birds	Population	Nesting status	References
Reptiles		Presence in wetland	References
Ablepharus budaki (Göçmen, Kumlutas & Tosunoglu, 1996)			Biocyprus (2009). Electronic Database
Acanthodactylus schreiberi schreiberi			Biocyprus (2009). Electronic Database
Chalcides ocellatus (Forsskål, 1775)			Biocyprus (2009). Electronic Database
Chamaeleo chamaeleon (Linnaeus, 1758)			Biocyprus (2009). Electronic Database
Dolichophis jugularis (Linnaeus, 1758)			Biocyprus (2009). Electronic Database

Hemidactylus turcicus (Linnaeus, 1758)	Biocyprus (2009). Electronic Database
Hemorrhois nummifer (Reuss, 1834)	Biocyprus (2009). Electronic Database
Macrovipera lebetina (Linnaeus, 1758)	Biocyprus (2009). Electronic Database
Malpolon insignitus (Hermann, 1804)	Biocyprus (2009). Electronic Database
Mediodactylus kotschy fitzingeri (Steindachner, 1870)	Biocyprus (2009). Electronic Database
Natrix natrix cypriaca (Linnaeus, 1758)	Biocyprus (2009). Electronic Database
Ophisops elegans schlueteri (Ménétriés, 1832)	Biocyprus (2009). Electronic Database
Phoenicolacerta troodica (Gray 1838)	Biocyprus (2009). Electronic Database
Stellagama stellio cypriaca (Linnaeus, 1758)	Biocyprus (2009). Electronic Database

Amphibians	Presence in wetland	References
Hyla savignyi (Audouin, 1827)		Biocyprus (2009). Electronic Database
Pelophylax bedriagae (Pallas 1771)		Biocyprus (2009). Electronic Database
Bufo viridis (Laurenti, 1768)		Biocyprus (2009). Electronic Database
Invertebrates	Presence in wetland	References
Lestes macrostigma		Odonata in reservoirs

References

Biocyprus (2009). Electronic Database

De Knijf G., Demolder H. (2013). Early spring observations of Odonata from Cyprus. Libellula 32 (1/2): 59-74.

Hellicar M., Anastasi V., Beton D., Snape R. (2014). Important Bird Areas of Cyprus. Birdlife Cyprus, Nicosia, Cyprus.

Tsintides T, Christodoulou S. C, Delipetrou P., Georgiou K. (2007) The red data book of the flora of Cyprus. Cyprus Forestry Association. Lefkosia.

Representative Image & Map



FAM026


ΛΙΜΝΗ ΠΑΡΑΛΙΜΝΙΟΥ /
PARALIMNI LAKE



Πρόγραμμα απογραφής των υγροτόπων της Κύπρου / Inventory of the wetlands of Cyprus

Δεδομένα Χάρτη: Google, DigitalGlobe, Landsat
Map Data: Google, DigitalGlobe, Landsat



 Όρια Υγρότοπου / Wetland's Boundaries

TERRA CYPRIA
Το Κέντρο Ιατρικά Προσταγείας Τον Περιβάλλοντος
Της Στήλης Συλλογιστικής Φορητοσύνης
Κέντρο Ζώνης Κοινωνίας Υαφ


ΥΓΡΟΤΟΠΙΟ
Κύπρου